

CITY OF ANN ARBOR

Green Streets Policy & Guidelines

"It ain't easy being green."

— Kermit the Frog, (1955-)







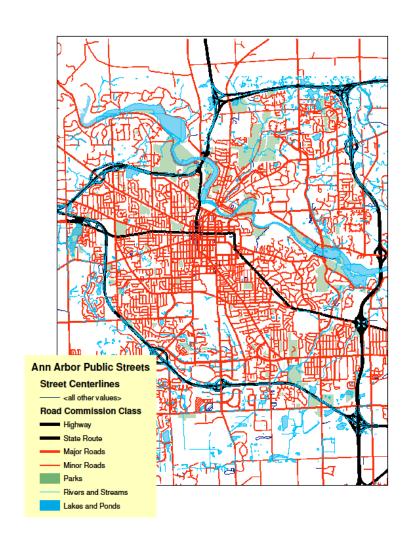




Where are we now?

- Nationally most stormwater regulations focus on controlling stormwater from <u>private development</u>, and typically don't apply to public streets.
- Stormwater management for roads is traditionally about safety, <u>not water quality or ecology</u>.
- The City's Federal Stormwater Permit requires that we address the <u>first flush</u> storm event during reconstruction.

Scale of Public Street Issue



 City of Ann Arbor Public right-of-way contains <u>2.9</u>
 <u>square miles</u> of impervious area

= 10.5% of the total City area

or

 = 25.9% of the total impervious area within the City of Ann Arbor



Scale of Issue

Most of the impervious area associated with public streets is **DIRECTLY CONNECTED**.

Directly Connected =
impervious areas that
are hydraulically
connected to the
conveyance system and
thence to the basin outlet
point without flowing
over pervious areas.



Stormwater – Regulatory Means

Commercial development - regulated by Chapter 63

Single Family Residential - regulated by Chapter 63

<u>Public Street projects</u> – new streets are regulated by Chapter 63, but reconstruction is only regulated by the City's Federal Stormwater Permit.

Green Infrastructure (GI) was previously not required

Green Streets (GS) Initiative Evolution

Kick Off Effort	Spring 2010
Internal Policy Options - Discussions	Spring 2011
Identified Water Stewards/Champions	Fall 2011
Three Green Streets Meetings - Public Forum	Winter 2012
Env Comm resolution to make GS an action item	Winter 2012
UM Student Project	Spring 2012
Meeting w/City staff to engage them	Sum 2012
Draft guidelines vetted throughout various groups	Winter 2013
Integrated into project design	Spring 2013
Environmental Comm resolution to approve GS policy	Fall 2013
Council resolution to approve GS policy	Winter 2014

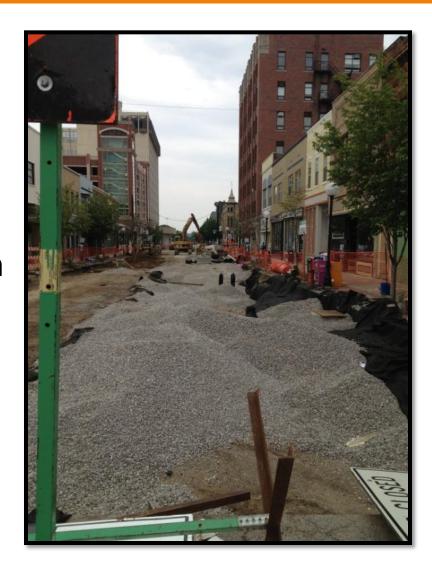
Progress doesn't happen overnight!

Green Infrastructure (GI)

Adaptable term used to describe an array of products, technologies, and practices that use natural systems – or engineered systems that mimic natural processes – to enhance overall environmental quality and provide utility services.

Areas of Opportunity Discussed

- Street Widths
- Surface Pervious vs.Impervious
- Curb & Gutter vs. Swales
- Street Trees & Planter Design
- Stormwater Control
 - Water Quality
 - Water Quantity
- Street Maintenance





Green Infrastructure

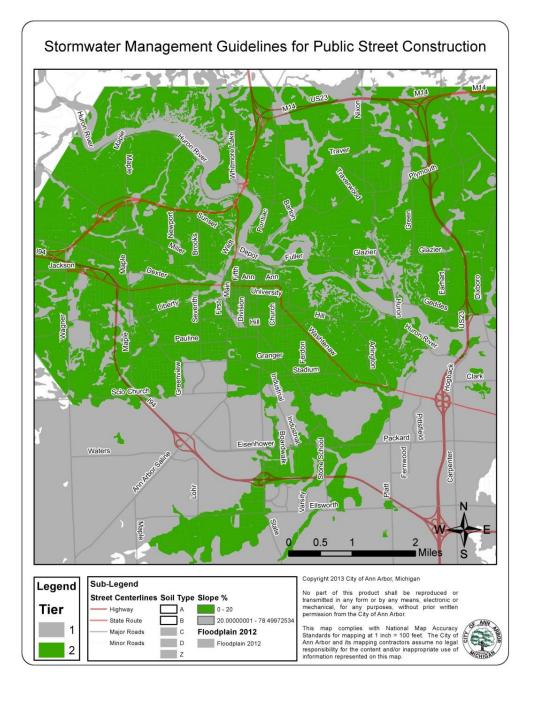
common denominator is stormwater infiltration

Infiltration?



- Important factors for infiltration
 - Soil
 - Slope
 - Floodplain

□ Site Specific



Site Conditions Infiltration Standard Within the Yes floodplain No Yes Slope > 20% First 1 inch No Yes Infiltration rate < 0.6 in/hr No 50% annual chance Infiltration rate Yes 0.6 in/hr -2.0 in/hr 24 hr event (2.35") No 10% annual chance Infiltration rate Yes 24 hr event (3.26") > 2.0 in/hr



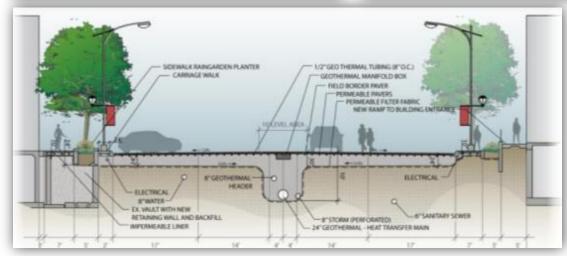














Questions?

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